

Abstract

A system and method for controlling a cigarette tipping paper perforation process includes supplying the paper in the form of a flexible web from a supply spindle that is mounted for powered angular rotation to a take-up spindle that receives a portion of the flexible web, and the take-up spindle also being mounted for powered angular rotation. A laser beam generator provides at least one laser beam through a series of optics that can include a laser beam expander or contractor, a rotating multi-faceted mirror, collimating lenses and downstream focusing lenses that focus the plurality of laser output beams received from the rotating multi-faceted mirror to burn a plurality of holes in the flexible web of cigarette paper. A control device controls the angular rotation of the supply spindle, the angular rotation of the take-up spindle, tension of the web, laser power and rotation of the multi-faceted mirror.